An Analysis of Remedial and Developmental Education

Tennessee Higher Education Commission — January 2002

Since 1991, there has been a substantial decrease (over 10%) in the percentage of entering freshmen needing significant remedial or developmental coursework.

Education has become a focal point of individual equity within a free society as well as a focal point of human capital for states and nations. The American higher education system has embraced the right to an education on the same level of the right to own property.

Although education is often measured by “point in time” assessments such as acceptance rates, graduation rates, and passage levels on licensure exams, education on the individual level is more an impetus for personal growth rather than a point in time assessment. Examples of educational growth exemplified by measures such as increases in reading ability from the 6th to the 10th grade level, or by an increase in math ability from arithmetic to algebraic conceptions.

Remedial and developmental coursework at the collegiate level addresses provides an opportunity for many students to pursue an education and to experience individual educational growth. For many students, developmental coursework represents a second chance for those who did not have proper educational resources at the K-12 level, require retraining after "time-off" from college, or who face other educational impediments. For educators, it represents an opportunity to direct the education of a student to the student's ability level.

Among the dynamics of making education accessible to all citizens and the ever-increasing need for retraining, the central policy questions become:

1. Which higher education institutions should offer remedial education?

2. Which students should receive remedial education at the college level?

Currently the state of Tennessee defines remedial and developmental work as follows:

Remedial - Student lacks the basic ability to write complete sentences, basic reading comprehension, and basic computational arithmetic (i.e., addition, subtraction, multiplication, division).

Developmental - Student has basic remedial skills, but lacks the ability to write coherent paragraphs and do algebraic computations.

Remedial coursework in Tennessee public institutions is offered at Tennessee Board of Regents two-year colleges and four-year universities. All colleges and universities currently offer developmental coursework.

The following tables display a variety of data related

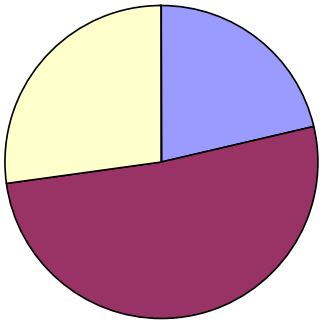
Fall 2000 Remedial & Developmental Breakdown

by Student Credit Hours and Undergraduate Headcount

TBR Universities		
University of Tennessee		
Two-Year Institutions		
Grand Total	**7.9%**	**17.1%**

Terms:

Remedial and Developmental Students by Age



to factors such as the percentages of student credit hours, credit loads, and undergraduate headcount that are from remedial and developmental courses. Overall, only about 3 percent of undergraduate student credit hours are remedial/developmental hours in Tennessee colleges and universities. An analysis of the impact of remedial and developmental coursework on institutional operations reveals that students taking remedial coursework make up 3.1 percent at universities and 16.7 percent at community colleges. It should be noted that the University of Tennessee does not offer any remedial coursework. Therefore, their relative load is considerably lower than other institutions across the state.

An analysis of Tennessee Higher Education Commission (THEC) data also reveals that the need for remedial or developmental coursework of students 18 years of age or younger has decreased over the last ten years. This cohort of students represents those individuals who graduated only three months before matriculation into college. The figure above shows that approximately 79 percent of those students enrolled in remedial and developmental courses were 19 years or older. Thus, the majority of R&D enrollment is comprised by non-traditional students who appear to have taken some time off before starting college. Of those students who were recent high school graduates (and required R&D), less than 2 percent took only remedial coursework, 29.09 percent took only developmental coursework and 5.42 percent took a mix of remedial/developmental courses. It should be noted that almost two-thirds of recent high school graduates needed no remedial or developmental coursework.

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The majority of remedial and developmental courses are taken by first time freshmen. Overall, 52 percent of remedial and developmental student credit hours are from first-time freshmen, and 47 percent of the total remedial and developmental headcount are from first-time freshmen. The proportion of first time freshmen taking any remedial and developmental classes has declined significantly from fall 1992 to fall 2000 from 55.7 percent to 49.4 percent.

Interestingly there has also been a pronounced shift in the amount of remedial and developmental coursework taken. In 1992 the majority of students (64.8%) taking R&D took more than one course. By 2000 that rate had fallen to 44.7 percent. A majority of students now only take one remedial and developmental course. However, as the pie chart to the right demonstrates, the majority of students enrolled in R/D coursework do not arrive at institutions directly from the K-12 pipeline.

Percentages of First-Time Freshmen in Remedial or Developmental Courses in Public Institutions

Comparisons of Remedial and Developmental Education

The tradition of offering coursework below college level in higher education institutions is coming under increased scrutiny from legislators and policy-makers across the nation. Although there have been few national studies of remedial activity, several states have conducted in-depth analysis of the impact of this instructional medium. However, it should be noted that the results are diminished by the lack of agreement on the nature of remediation. There is little consensus and understanding about what remedial education is, whom it serves, who should provide it, and how much it costs. Consequently, this lack of fundamental information and imprecision of

language often renders public policy discussions ill informed at best (Merisotis and Phipps 2000). Studies by the National Center for Education Statistics (NCES) shows that over three-quarters (78%) of higher education institutions that enrolled first-year students in fall 1995 offered at least one remedial reading, writing, or mathematics course. All public two-year institutions and almost all (94%) institutions with high minority enrollments offered remedial courses. Furthermore, 29 percent of first-time first-year students enrolled in at least one remedial reading, writing, or mathematics course in fall 1995. Finally, first-year students were more likely to enroll in a remedial mathematics course than in a remedial reading or writing course, irrespective of institution attended (NCES 1995).

Students do not take remedial courses for extended periods of time.

At most institutions, students do not take remedial courses for extended periods of time. Two-thirds (67%) of the institutions indicated that the average time a student takes remedial courses was less than one year, 28 percent took courses for one full academic year, and 5 percent were enrolled in such courses for more than one year. Tennessee's higher education accountability document, "Challenge 2000," shows that 49.4 percent of first time freshmen at all public institutions took a remedial and developmental course. Examining just the four-year colleges and universities, the percentage taking any remedial and developmental in Tennessee decreases to 32.9 percent.

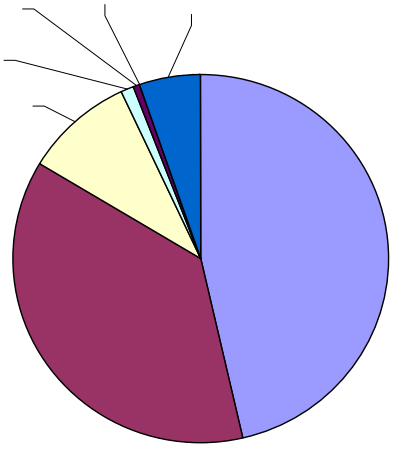
The state of Oklahoma conducts regular studies of the state's need for remedial coursework. Its most recent findings show that 37.2 percent of all 1999-2000 first time freshmen enrolled in remedial coursework at some point during the 1999-00 academic year. Only 18.9 percent of the comprehensive university freshmen took remedial coursework during the academic year while 48.3 percent of the two-year college freshmen did so. Statewide statistics reveal that 36.3 percent of direct high school graduates entering college in Oklahoma enrolled in remedial courses. THEC data from Challenge 2000 show that 39.5 percent of recent high school graduates in Tennessee took and remedial and developmental coursework.

How Successful Is Remedial Education?

Research about the effectiveness of remedial education programs has typically been sporadic, underfunded, and inconclusive. For instance, a study of 116 two- and four-year colleges and universities revealed that only a small percentage conducted any systematic evaluation of their remedial education programs (Weissman, Bulakowski, & Jumisco, 1997). The Southern Regional Education Board has observed that, because few states have exit standards for remedial courses, it is unclear whether many states know whether their programs work (Crowe, 1998). Adelman (1998) examined college transcripts from the national high school class of 1982 and, not surprisingly, found an inverse relationship between the extent of students' need for remedial courses and their eventual completion of a degree. Of the 1982 high school graduates who had earned more than a semester of college credit by age 30, 60 percent of those who took no remedial courses, and 55 percent of those who took only one remedial course, had either earned a bachelor's or associate's degree. In contrast, only 35 percent of the students who participated in five or more remedial courses attained either a bachelor's or associate's degree.

Research (Adelman 1998) has demonstrated that the need to take remedial education courses reduces the probability of achieving a degree. It is informative to examine the ratio of students who did not need remedial education and those who did. According to Adelman, those students who did require

Remedial and Developmental Students by Undergraduate Classification



remediation had a graduation rate of 60 percent, compared to a 35 percent graduation rate for those students who required remediation. However, those requiring remediation represent the least academically prepared students. Thus, one could view investments made in remediation successful because such coursework allowed the academically weakest students to perform almost three-fifths as well as the students who did not need any remediation. These data seem to indicate that remediation is, in fact, quite effective at improving the chances of collegiate success for underprepared students (Merisotis and Phipps 2000: p. 75).

An analysis of remediation for first-time full-time freshmen in Tennessee four-year institutions reveals that 26 percent of those students who required remedial education (Combines Rem. Only & R/D Mix) graduated within six years. The graduation rate for those not requiring any remediation was 55 percent, while those students needing developmental education only had a graduation rate of 33 percent. As shown to the right, the six-year graduation rate for two year institutions followed the same pattern.

Further analysis of this same 1994 cohort, reveals that 71 percent of the students requiring remedial education returned the next fall for a second year, while 73 percent of those requiring developmental education only and 82 percent of those requiring no remediation returned. Further analysis is necessary to determine the causes and significance of the difference between one-year retention and graduation rates.

Four-Year Public Institutions / 1994 First-Time Full-Time Freshmen

Two-Year Public Institutions / 1994 First-Time Full-Time Freshmen

Conclusions

The last decade has proven itself to be an exceedingly unstable era for higher education, marked by rising tuition costs, diminished student financial aid, and a constant effort on the part of academic institutions to garner essential resources while cutting costs. Colleges and universities routinely struggle to make ends meet, simultaneously attempting to respond to demographic changes such as fluctuations in traditional student cohorts, periodic enrollment declines punctuated unexpectedly by temporary enrollment upswings, an emergence of new constituencies, and a seemingly oversupply of graduates (Lucas, 1996). Further complicating this picture was the increased call for accountability on the part of elected officials.

One of the central questions asked by policymakers during the 1990s was why so many students have to take remedial and developmental courses upon entering college. Research (Adelman 1998; Abraham and Creech 2000; Merisotis and Phipps 2000) has demonstrated that remedial and developmental (R&D) coursework remain a fundamental part of American higher education. This fact is especially evident at the community college level, where up to 30 percent of the instructional activity is in the area of R&D (NCES 1996; MHEC 1998; THEC 2000). Although there has been some research of campus specific R&D issues and impacts (Blose 1999; Astin 1998) there have been few longitudinal studies of R&D, especially with respect to its effectiveness. As Abraham and Creech (2000) note, systematic reporting about remedial education is sporadic at best. Few states can answer questions such as: [1] how many students complete remedial courses, and how well do they perform; [2] how well do students who complete remedial courses perform in subsequent courses; and [3] how many students who take remedial courses earn a degree (Abramson and Creech 2000). In the coming months, the Tennessee Higher Education Commission staff will undertake research to address the shortcomings noted above through the analysis of a statewide database that will permit the researchers to track ten cohorts, representing almost 200,000 students, who required remediation.

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